Transforming American Education:

Learning

Powered by Technology

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Context

Process

Content

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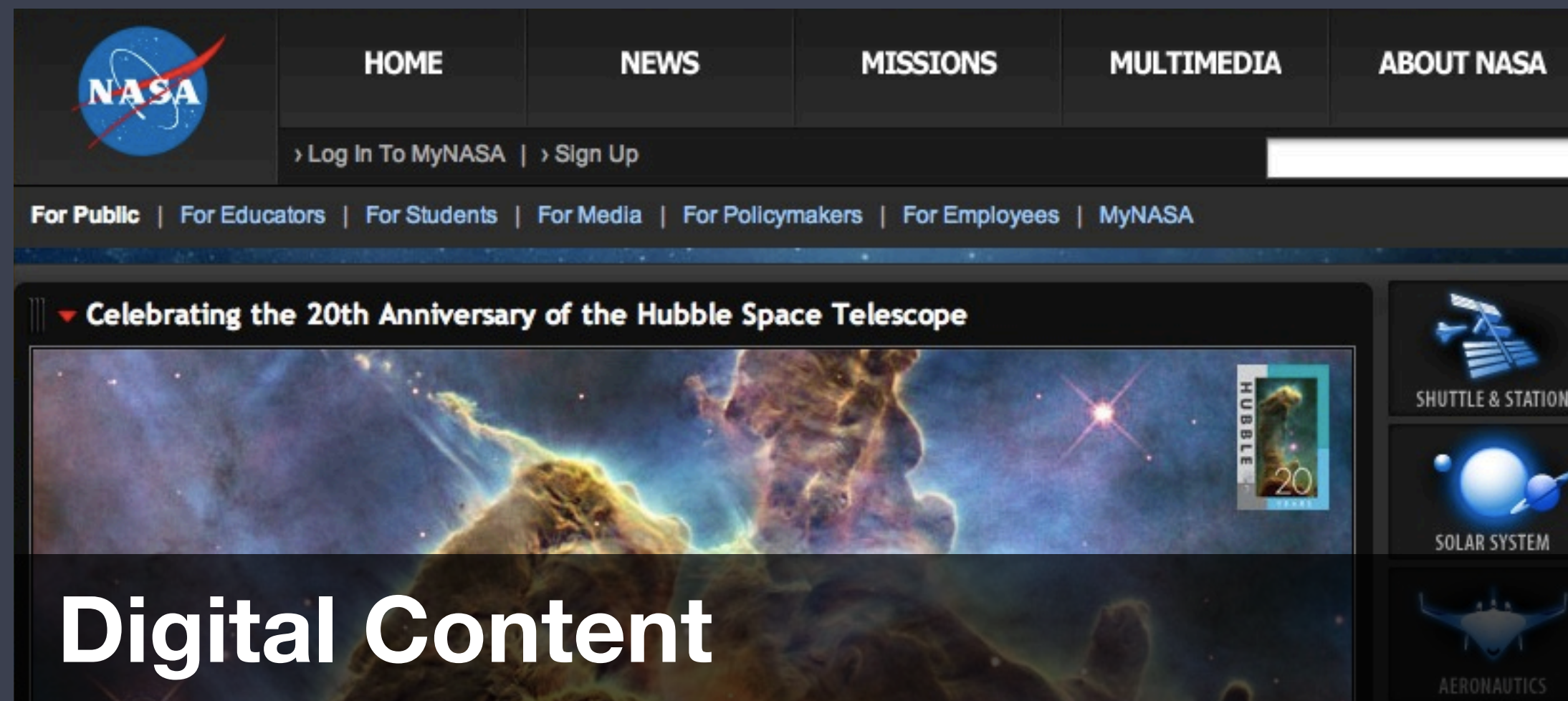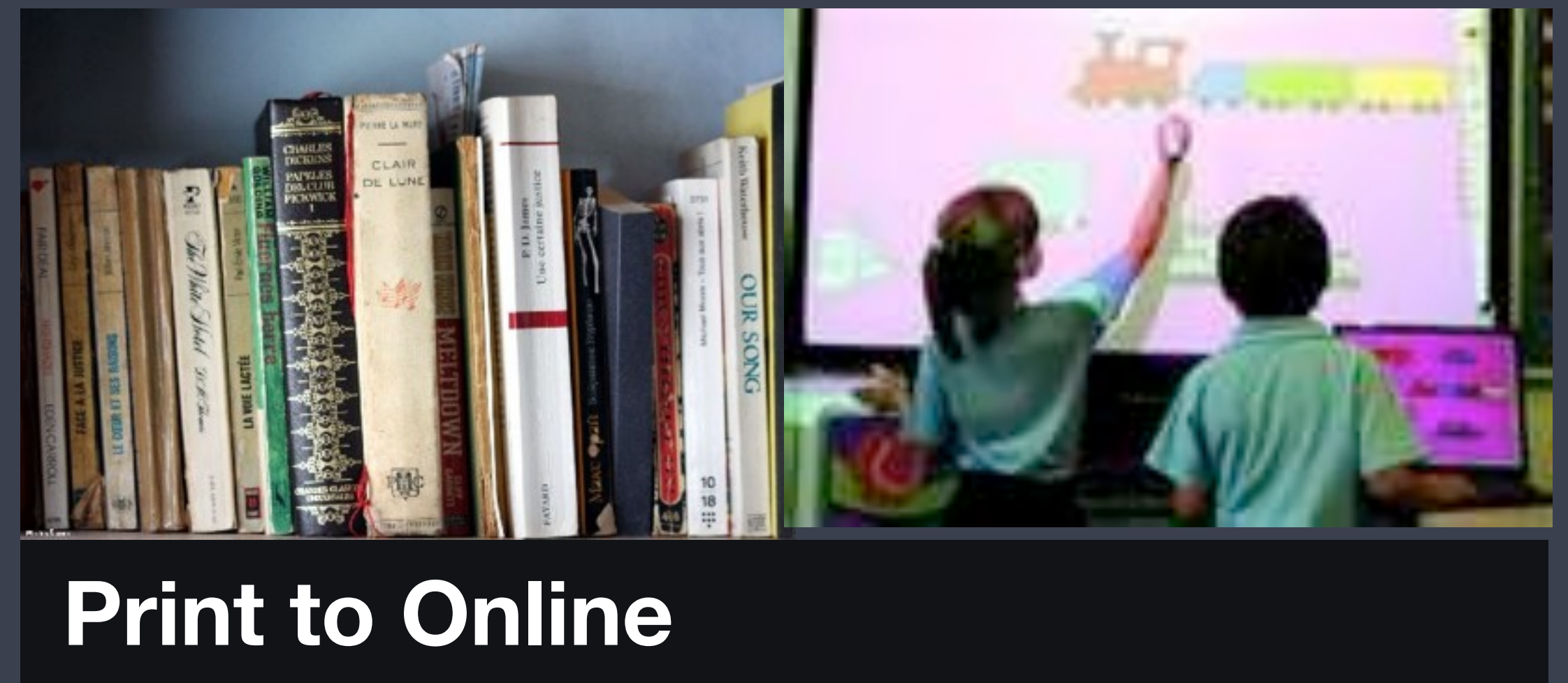# Why?

Context

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Mobility – 24/7 Access

Social Interactions for Learning

Digital Content

Print to Online

"By 2020, America will once again have the highest proportion of college graduates in the world."

– President Barack Obama

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How?

Process

6

How the plan was developed

12 federal policymakers

15 experts on Technical Working Group

24 industry leaders

17 events and focus groups

50 chief technology officers

22,876 *users of public Web site*

123 *college instructors*

235 classroom teachers

153 technology providers

572 *reports, examples, and statements contributed to the web site*

48 school administrators

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What?

Content

R&D – Grand Challenges

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Learning

- ▶ **21st century expertise**

- ▶ **How people learn**

- ▶ **Personalized learning**

- ▶ **Universal Design for Learning**
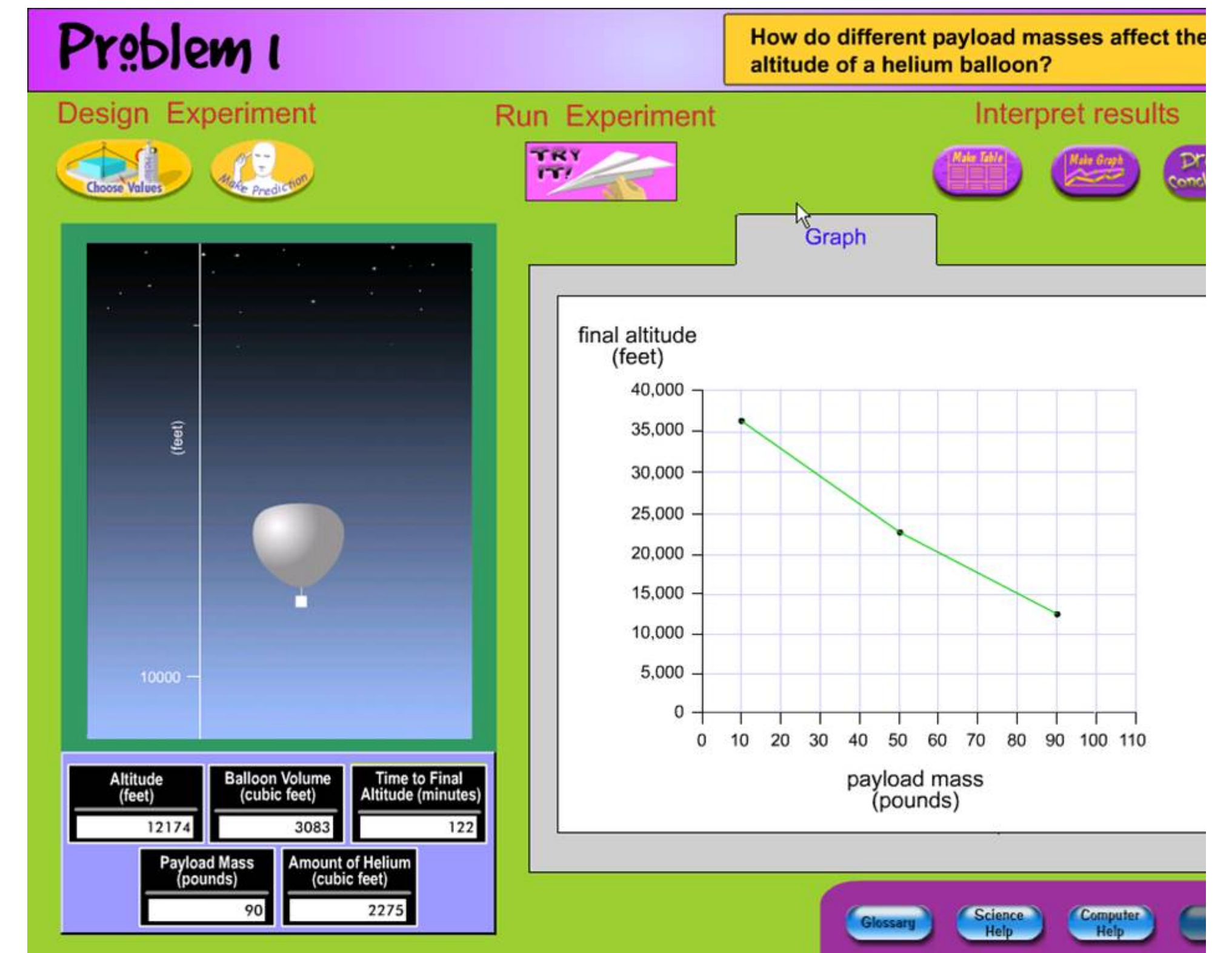
- ▶ **Informal + Formal**

Goal 1.0: Learning

All learners will have engaging and empowering learning experiences both in and outside of school that prepare them to be active, creative, knowledgeable, and ethical participants in our globally networked society.

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Assessment

- ▶ **Measure what matters**

- ▶ **Embedded assessments**

- ▶ **Real time feedback**

- ▶ **Persistent learning record**

- ▶ **Universal Design**

- ▶ **Continuous improvement**

Goal 2.0: Assessment

Our education system at all levels will leverage the power of technology to measure what matters and use assessment data for continuous improvement.

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Teaching

- ▶ **Highly "effective"**

- ▶ **Connected**

- ▶ **Online**

- ▶ **Informal + Formal**

- ▶ **Inspired**

Goal 3.0: Teaching

Professional educators will be supported individually and in teams by technology that connects them to data, content, resources, expertise, and learning experiences that can empower and inspire them to provide more effective teaching for all learners.

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Infrastructure

- ▶ **24/7 - Community wide**

- ▶ **Broadband**

- ▶ **Access Points**

- ▶ **Supported**

- ▶ **Equitable**

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Goal 4.0: Infrastructure

All students and educators will have access to a comprehensive infrastructure for learning when and where they need it.

Productivity

▶ **Cost efficiency**

▶ **Financial systems**

▶ **Process redesign**

▶ **Interoperability standards**

Goal 5.0: Productivity

Our education system at all levels will redesign processes and structures to take advantage of the power of technology to improve learning outcomes while making more efficient use of time, money, and staff.

Research and Development

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What needs to be invented?

Grand Challenges

1.0

Design and validate an integrated system that provides real-time access to learning experiences tuned to the levels of difficulty and assistance that optimize learning for all learners, and that incorporates self-improving features that enable it to **become increasingly effective through interaction with learners.**

Grand Challenges

2.0

Design and validate an integrated system for designing and implementing valid, reliable, and cost-effective **assessments of complex aspects of 21st century expertise** and competencies across academic disciplines.

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Grand Challenges

3.0

Design and validate an integrated approach for **capturing, aggregating, mining, and sharing content**, student learning, and financial data cost-effectively for multiple purposes across many learning platforms and data systems in near real time.

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Grand Challenges

4.0

Identify and validate design principles for efficient and effective online learning systems and combined online and offline learning systems that produce content expertise and **competencies equal to or better** than those produced by the best conventional instruction in **half the time at half the cost**.

Improve Access

Make sure everyone is connected - has access that is consistent like electricity

Manage Print to Digital

Make sure content is digital, organized and accessible

Focus on the front lines

Make sure teachers have access - tools, resources, content, parents, experts

Continuous Improvement

Make sure there is constant focus on R&D, evolved evidence, technology transfer

TOP PRIORITIES

Q&A